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Public engagement of CCS in South Africa

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Abstract

South African Centre for Carbon Capture and Storage (SACCCS) was established in 2009 by the South African government in collaboration with the South African industry and international governments to examine the technical potential for carbon capture and storage (CCS) in South Africa. The current focus of SACCCS is the development of a Test Injection Project in South Africa. Core to delivering this project will be the engagement of the South African public at both a national and local level. CCS public engagement will have some unique challenges in South Africa given the significant diversity of the population with regard to culture, language and economic situation. Given that South Africa is a developing country, communication about CCS technology also needs to be placed in the context of other national priorities such as access to energy, poverty alleviation, job creation and education.

In April 2012 a consortium of South African and international consulting and research organisations was appointed as part of the World Bank – South African Department of Energy CCS Study. The task of the consortium is to prepare two separate stakeholder engagement plans, a National Plan (NatPlan) and a Local Plan (LocPlan) prior to the commencement of CCS projects in South Africa, including the SACCCS Test Injection Project. This paper will discuss the development of the public engagement strategies at the national and local levels including a discussion of the unique public engagement issues facing CCS in South Africa will be discussed.

Keywords: CCS, South Africa, public engagement, SACCCS

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1. Introduction

For close to a decade it has been understood that South Africa has potential to implement carbon capture and storage (CCS) as part of a portfolio of carbon dioxide (CO₂) mitigation technologies to help address climate change. Since 2004, a significant amount of work has been done in South Africa to further explore the potential for CCS. Key developments during this time include the release of a South African CCS Roadmap, the launch of the South African Centre for CCS (SACCCS), and the release of the Atlas on Geological Storage of CO₂ in South Africa. The South African CCS Roadmap outlines the following major milestones for CCS development in South Africa:

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|---------|--|
| 2004 | Assessment of the potential for CCS in South Africa (Complete) |
| 2010 | Development of a South African CO ₂ geological storage atlas (Complete) |
| 2017 | Commencement of a CO ₂ Test Injection Project (10,000 - 50,000tCO ₂ stored) |
| 2020 | Facilitate the commencement of a CCS demonstration plant (in the order of 100,000tCO ₂ /year) |
| 2025+ | Inform the implementation of commercial CCS deployment (over 1,000,000tCO ₂ /year) |
| Ongoing | Provide support to other CCS activities in South Africa |

With the Test Injection Project planned for 2017 and a demonstration plant for 2020, it is necessary to begin public engagement early and to prepare engagement plans designed to raise the awareness and understanding of CCS. These plans need to take account of national and local socio-political contexts. Given the technical nature of CCS, it is highly likely that there will be limited knowledge and understanding of the CCS concept, technology and strategy, especially at the local level. At the national level, it is necessary to engage key stakeholders in government, business and civil society. At the local level, government officials, traditional leaders, communities and private citizens will be more concerned with the potential effect of CCS on health, environment and economic activity. Knowledge sharing and capacity building will thus be essential to addressing these and other concerns as well as to enable stakeholders to proactively engage in the CCS process.

In order to develop these plans, SACCCS is working with the South African Department of Energy and the World Bank under the auspices of the World Bank – South African Department of Energy CCS Study – Task 4: Public Engagement. SACCCS has also set up a Public Engagement Sub-committee to input into this process and to oversee in the implementation of public engagement activities by SACCCS. In April 2012 a consortium of South African and international consulting and research organisations was appointed to execute Task 4 and prepare plans for national and local stakeholder engagement prior to the commencement of CCS in South Africa. The assignment managed by a Project Task Force comprising the South African Department of Energy, the World Bank and SACCCS.

The national and local stakeholder plans will be drafted as separate plans, but will complement each other and present a united approach to deployment of stakeholder engagement in South Africa. The National CCS Public Engagement Plan (NatPlan) will address stakeholder engagement at a strategic national level and will define the roles and responsibilities of different national stakeholders. The Local CCS Public Engagement Plan (LocPlan) will address local stakeholder engagement in the two proposed areas to be considered for the Test Injection Project in Kwa-Zulu Natal and in the Eastern Cape. A generic process for stakeholder engagement at the local level will be presented which can be used in any local context.

1.1. The NatPlan

For CCS to be fully considered as part of South Africa's energy strategy, and climate change mitigation actions, the public must be engaged and provided with information about the basic principles around the CCS technology as well as benefits and potential risks of its application. The objectives of national public engagement are to:

- Place CCS in the context of South African climate change mitigation, energy production and use, coal use, resource development, job creation, among others;
- Raise awareness of CCS as an important climate change mitigation measure;
- Develop understanding of CCS, key concepts, subsurface storage and key issues;
- Outline the benefits and potential risks of utilization of the CCS technology in South Africa.

To achieve this, the development of the NatPlan will be based on a preliminary assessment of the South African context conducted preferably through qualitative research methods such as key stakeholder interviews and workshop discussions. The NatPlan development process includes the identification of key stakeholder groups and their opinions on the issues surrounding CCS (climate change, climate change mitigation, energy production and use, etc.) as well as the main issues of concern and interests involved. The NatPlan additionally assesses the knowledge gap surrounding the issues of climate change mitigation and energy technology solutions as well as the national communication environment, including trusted sources of information and opinion leaders. Development of the NatPlan (and LocPlan) reflect international stakeholder engagement and CCS public engagement best practices while identifying potential South African analogues for national public engagement.

1.2. The LocPlan

For a successful CO₂ Test Injection Project to be developed and to take place, the local community in the project area must be engaged and provided with information about the technology and potential risks and benefits of its application for them and their community. It is crucial to note that the local risks and benefits will likely differ from the national risks and benefits and these differences must be clearly identified and addressed. The LocPlan will include a generalized engagement plan as well as a specific engagement plan for the Test Injection Project specifically. The action plan will include the engagement activities required during the exploration and preparation stages of the Test Injection Project such as seismic surveying and drilling of exploration wells. The objectives of local stakeholder engagement are to:

- Raise awareness of the CCS as an important climate change mitigation measure
- Develop understanding of benefits that CO₂ injection will provide to the local community (e.g. job creation, business opportunities, infrastructure development, etc.) as well as potential risks (e.g. leaks, pollution of water sources, negative public perception etc.)
- Develop understanding of CCS technology
- Place CCS and CO₂ injection in the context of national and local climate change mitigation, energy production and use, coal use, resource development, job creation, among others;
- Involve the local public in the development of the Test Injection Project.

The LocPlan outlines the process by which SACCCS and Test Injection Project developers can best meet the objectives of local stakeholder engagement as outlined above. To achieve this, the development of the LocPlan is based on international best practice around Test Injection Project local communication and engagement [1, 2, 3] An assessment of the local context in the form of a social site characterisation is being undertaken during the development of the LocPlan to identify local opinion formers in the area of energy and climate change, local policy. Further information about local opinion about climate change, energy production and use, coal use, resource development, job creation, will be sought. Additionally, an understanding of South African analogous technologies such as mining, and mineral exploration will be built.

2. Approach and Methodology

A three-phased approach is being used to develop the NatPlan and LocPlan (Figure 1). Phase 1 consisted of a project Inception Workshop with key stakeholders and interviews/focus groups with key stakeholders. Phase 2 included stakeholder identification and analysis, international case study reviews, analogous technology reviews, and drafting of the NatPlan and LocPlan for input. Phase 3, currently in progress, includes an Interim Workshop for stakeholder feedback on draft plans, refinement of engagement strategies, and development of implementation pathways.

2.1. Phase 1 activities and inception workshop

As part of the implementation of Phase 1 of the assignment, an inception workshop was held with key stakeholders on 25 May 2012 at SACCCS in Sandton, Johannesburg. The workshop, attended by 22 delegates, included key stakeholders in the CCS industry, government, parastatals and project consortium members. The objectives of the workshop were to: (a) introduce members of the project team and key stakeholders in the stakeholder engagement strategy development process, (b) finalise scope of work, approach, methodology, and program, (c) begin to build capacity and encourage knowledge sharing through international CCS project and public engagement best practices and South African accomplishments to-date, and (d) further identify other key stakeholders to be consulted.

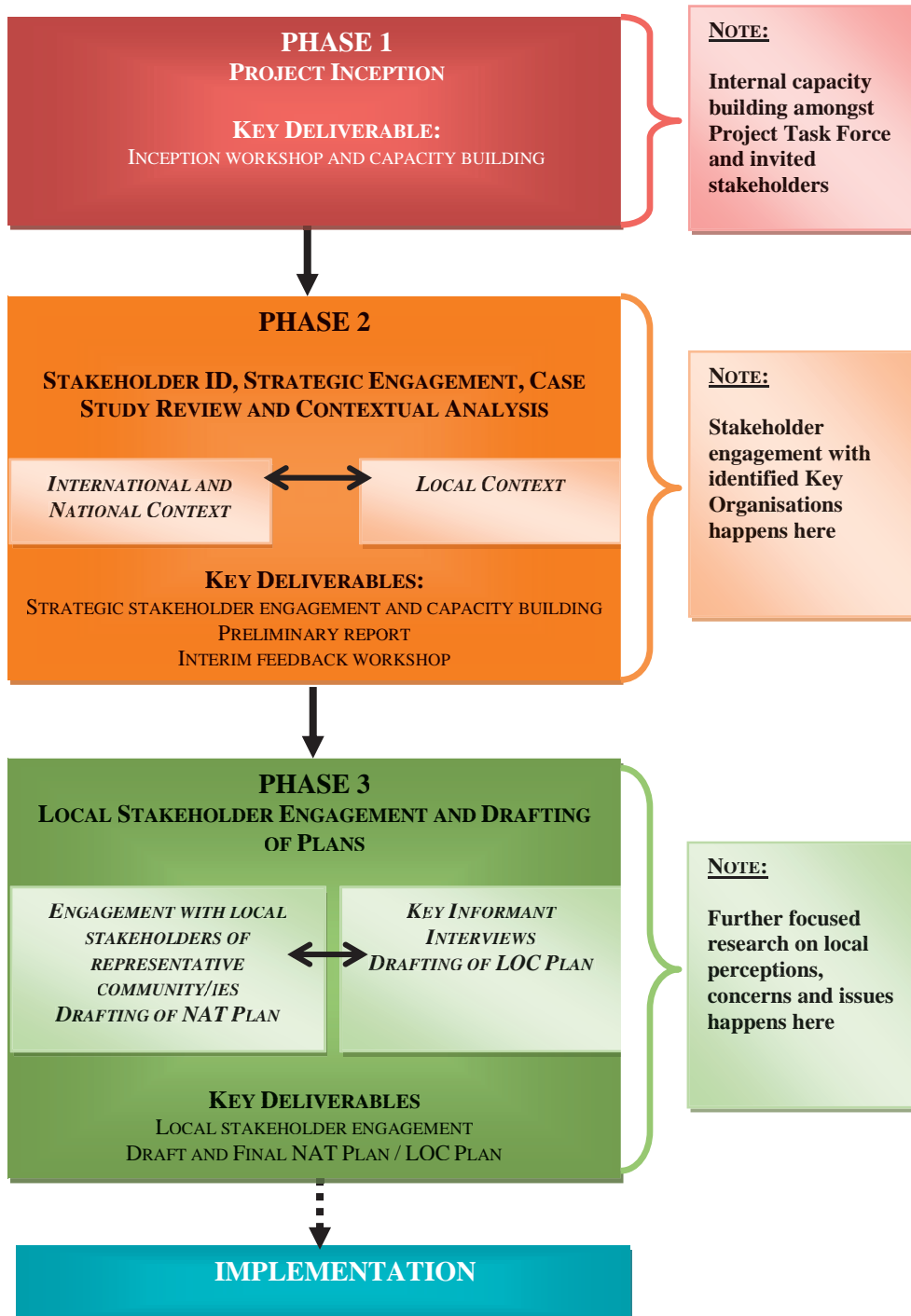


Fig. 1. Engagement plan development process

The following key groups of issues and concerns were identified and discussed at the workshop: (a) engagement process, (b) communication content and process, and (c) areas of uncertainty. Discussion about engagement process details focused on issues such as stakeholder inclusivity, representativeness and approach, incorporation of stakeholder viewpoints, peer review of engagement process, timing of engagement and incorporation of lessons learned from other CCS projects.

Communication content and process discussion included aspects such as how communication would take place, what would be communicated (content, benefits, challenges), and with whom communication/engagement would take place. Additionally, some discussion centred on which parties would undertake communication and engagement. CCS-specific content questions were raised about project technical details, frequently asked questions, groundwater impact, and financial impacts. Finally, some areas for which there is uncertainty or limited information were discussed, such as financial costs, legal and regulatory framework, risk (technical and non-technical), and project specifics.

2.2. Phase 2 research activities and plan development

During Phase 2, desktop research was undertaken to further characterise the South African contexts that might impact CCS public engagement, stakeholder identification and analysis, and key issues to consider in the development of NatPlan and LocPlan.

A review of the legislative framework was conducted for information with respect to CCS, stakeholder engagement, and public participation. A preliminary stakeholder identification process was conducted between consortium team members. Broad categories of stakeholder sectors/interest groups on a national and local level to be engaged were identified. These stakeholder categories are grouped into specific databases for the NatPlan and the LocPlan. Additionally, various key stakeholder meetings were held in June and July 2012. Important perspectives expressed in these meetings and to be considered in the plan development include:

- A balance is required between engagement with stakeholders as early as possible, with adequate preparation to establish thorough stakeholder plans prior to engagement
- Garnering community perspectives and consulting with stakeholders at provincial and local municipality level is essential for success
- CCS is a new technology in South Africa and stakeholder engagement has to be executed correctly, openly, transparently and endorsed by government
- Deployment of CCS provides a unique opportunity to pro-actively assist with socio-economic upliftment initiatives in South Africa
- The importance of analysing analogous activities such as mining and acid mine drainage and including lessons learnt from these activities are essential to enhance the quality of the CCS engagement plans for South Africa
- CCS must not be viewed as a means to justify the use of coal, but as a safe and secure long-term strategy; not a short-term quick fix solution
- It is necessary to prove to what extent CCS can mitigate CO₂ emissions, how safe the technology is and at what scale the Test Injection Project can be implemented in South Africa.

Drafts of the NatPlan and LocPlan were prepared and presented at an Interim Workshop in October 2012. A case study approach was used to assess the impact of analogous activities on CCS stakeholder engagement. Additionally, international CCS project case studies were examined for pertinent lessons

learned to apply to the South African context [2, 3, 4]. The NatPlan includes sections devoted to background, international CCS context, governance and regulatory frameworks, national context, stakeholder identification and analysis, methods of engagement (messages, materials, and distribution), and a stakeholder engagement National Action Plan.. The LocPlan includes sections on background, objectives, approach and relationship between the NatPlan and LocPlan, case studies of analogous technologies to deepen understanding of public perceptions for these technologies, stakeholder identification and analysis, development of key messages for CCS and the Test Injection Project, key methods of engagement, engagement during the life of the Test Injection Project, capacity building and awareness raising initiative, grievance mechanism and conflict management procedures, building internal capacity to deal with stakeholder engagement during project implementation, local engagement framework, and a stakeholder engagement Local Action Plan.

The objective of the Interim Workshop was to seek input on the NatPlan and LocPlan from key stakeholders who attended the Inception Workshop with the addition of other identified key stakeholders.

3. Findings and Path Forward

Stakeholder comments and input from the Interim Workshop will be incorporated into the final draft versions of the NatPlan and LocPlan. Upon completion of the draft plans, additional input will be sought from stakeholders identified as high level/high impact for engagement. Revisions of the plans will be made accordingly in an iterative process to create inclusive engagement plans with specific actions to be undertaken as well as broad engagement strategies to guide further CCS deployment at the national and local level. This last phase will include targeted stakeholder engagement level at local level, which builds on the social analysis, case studies, and analogous activities. Further work is needed in aligning stakeholder engagement objectives, approaches, and opportunity for continued refinement at the local level in the approach to local leaders and stakeholders.

The process of creating the national and local stakeholder engagement strategies continues to be an opportunity to build capacity and share knowledge about CCS, stakeholder engagement, and public participation in South Africa. Through the process of creating the NatPlan and LocPlan, multiple parties have had the platform in which to formulate, articulate, and put into practice CCS stakeholder engagement approaches for the benefit of South Africa based in international best practices.

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